

**Comments and Responses on Public Review Draft of SOCCR/SAP 2.2 (September 2006)**

COMMENTS FROM PUBLIC REVIEWERS						AUTHOR'S RESPONSE						
Comment Number	Reviewer ID	Chapter	Page	Line	Comment Text	Acknowledged, but no further response or revisions are required	Revisions have been incorporated as suggested in the comment	Agree, but see "Notes on Response"	Agree, but elaboration is precluded by length limitations	Disagree; see "Notes on Response"	Beyond scope of report/chapter	Notes on Response
01-001	13	1	1-1	1	Chapter 1's title, "What is the Carbon Cycle and Why <u>Do</u> We Care?" (emphasis added), is apparently derived from the first of the six bulleted questions in the Preface (p. ix) of the draft report, but for some unknown reason differs in wording from that Preface question "What is the Carbon Cycle and Why <u>Should</u> We Care?"			X				The indefinite generic "we" is deleted from the chapter title here and in the Preface, and the text was revised to eliminate that common generic community use of "we."
01-002	13	1	1-1	1	Moreover, it is unclear who is being referenced by the first person "We."			X				See the response to Comment # 01-001
01-003	13	1	1-1	1	Since this is a report about the North American carbon cycle, the question should be more aptly stated: "What is the Carbon Cycle and Why Does [or Should] North America Care?" EEI recommends such a change in the question here, as well as in the Preface (p. ix) and the Executive Summary (p. ES-2).					X		Use of North America here for "we" has its own ambiguities and while about North America, others outside of North America care about the global carbon cycle and North America's part in it
01-004	12	1	1-1	11	This chapter has no abstract or summary of key findings as in other chapters.			X				This chapter is introductory in nature, for background, and not part of the synthesis and assessment activity yielding Key Findings.
01-005	13	1	1-1 to 1-2 & 1-9	11-31 to 3	The first sentence (line 12) refers to the "concept of a carbon budget or carbon cycle" (emphasis added) as if they are interchangeable in reference to the "concept." While there is no apparent definition of either term in the chapter, there is a definition of the term "carbon cycle" in the draft's Glossary (p. A-1) and a definition of that term in the Glossary of the CCSP's 2003 Strategic Plan (p. 194).[1] In the case of the term "carbon budget," there is an explanation (p. 1-1) that it "is an accounting of the balance of exchanges of carbon among the reservoirs: how much is stored in a reservoir at a particular time, how much is coming in from other reservoirs, and how much is going out." Whether or not that explanation is construed as a definition, these terms are not interchangeable in light of the two Glossary definitions and the above explanation. Possibly the word "concept" should be "concepts" and the word "or" between the words "carbon budget" and "carbon cycle" should be "and."			X				Revisions addressing the problem have been incorporated, albeit not the specific suggested revision
01-006	13	1	1-1 to 1-2 & 1-9	11-31 to 3	In addition, on lines 12 and 13 there is a reference to "decisionmakers" and "citizens." The February 2006 Final Prospectus describes a broad "audience" for this report, which, among others, includes "decisionmakers" in the public and private sector, "the general public," "climate policy and carbon management interest groups" and "scientists." While we can understand that most scientists would be familiar with these two "concepts," it is doubtful that many others in the "broad audience" would be familiar with them and thus we do not understand why the draft singles out "decisionmakers" and "citizens." Accordingly, we recommend that the first sentence on line 12, p. 1-1 should be revised to read as follows: "The concepts of a carbon budget and carbon cycle are unfamiliar to most North Americans, other than scientists and possibly some decision-makers in the public and private sectors."			X				Revisions addressing the problem have been incorporated, albeit not the specific suggested revision

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01-007	13	1	1-1 to 1-2 & 1-9	11-31 to 3	In addition, "Figure 1-1," (p. 1-1, lines 22-24), also seems to define the term "The global carbon cycle" and refers to an "accompanying text box" (p. 1-9, lines 3-17), which provides an explanation of "The Global Carbon Cycle." [1] This leaves the impression that this chapter is primarily about the "Global Carbon Cycle and the Global Carbon Budget," with some brief discussion of the North American carbon cycle on pp. 1-4 – 1-6. Yet the title to the chapter and the subtitles on p. 1-1, line 11; p. 1-2, line 22; p. 1-3, line 27; and p. 1-6, line 6 do not reflect this global context. A correction is needed, particularly since the report purports to be about the North American "Carbon Cycle."		X					
01-008	13	1	1-1 to 1-2 & 1-9	11-31 to 3	Neither Figure 1-1 nor the accompanying "text box" provide a reference to a source for each. Similarly, there are no references to sources for the materials in lines 12-34 of p. 1-1. References are needed.			X				While the description of the carbon cycle in the text is common scientific understanding and does not require reference re attribution, the source of the Figure and references for further reading or details have been added to the accompanying text box
01-009	13	1	1-1 to 1-2 & 1-9	11-31 to 3	The sentence beginning on p. 1-1, line 35 and ending on p. 1-2, line 2, asserts that by "[e]xamining the carbon budget," it will "not only" reveal "whether the budget" is balanced or unbalanced, slightly or significantly either way, but also it will "provide insights about why such a condition exists and how it might be managed." There is no reference to a source of these assertions.		X					
01-010	13	1	1-1 to 1-2 & 1-9	11-31 to 3	We understand that the words "and if it is unbalanced can provide insights about why such a condition exists and how it might be managed" stem from comments to Peer Reviewers on "Draft 1 (May 2006) CHAPTER 1" (p. 1 of 4), which were offered because the word "imbalance" was "used four times" in this part of the first draft. First, we question how a mere examination of the global "carbon budget" will reveal not only how and to what extent it is balanced or not and, even more importantly, "how it might be managed" globally without some explanation of what is the nature and extent of that examination as well as the resources and time needed to conduct the examination.		X					Text has been revised to improve clarity of the logic
01-011	13	1	1-1 to 1-2 & 1-9	11-31 to 3	Second, the word "insights" is inappropriate here, taking into consideration the definition thereof [the original comment quotes the detailed definition from <u>Random House Webster's College Dictionary</u> here]. The sentence is premature at this early stage of the draft and is overly broad.		X					
01-012	13	1	1-2	2-4	At the end of the sentence there is source cited, namely "(IPCC, 2001)," which, according to the chapter references (p. 1-8) is IPCC Working Group I's Assessment Report on science. In addition, the Executive Summary of this draft (p. ES-1) does not include the qualification "Currently," stating, "The Earth's carbon budget is in imbalance." Unlike line 2 above, it is not followed by a reference to a source			X				The Executive Summary has been revised to include "currently" but in keeping with the nature of the Executive Summary as a summary of material in the report the citation is not included there. Attribution and references for material summarized in the Executive Summary are cited in the report proper.

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01-013	13	1	1-2	2-4	First, it is unclear whether the IPCC reference in the draft is applicable to the "out of balance" portion of the sentence or the "human use" portion thereof, or both. The word "primarily" was apparently added by the Peer Reviewers at the suggestion of a commenter on the May 2006 draft report (see "Comments and Responses on SOCCR/SAP 2.2 Draft 1 (May 2006)", p. 1-04). Thus, it is clear that this word is not from the IPCC.			X				Citation has been corrected. Primarily does appear in the cited IPCC report.
01-014	13	1	1-2	2-4	More importantly, we do not know what period of time the word "Currently" covers, e.g., 2001, which was the year of the IPCC assessment, or 2007, which is the year this report is to be released. Moreover, the Energy Information Administration's (EIA) December 2005 publication, "Emissions of Greenhouse Gases in the United States 2004" (which also cites the IPCC's 2001 science assessment), points out that "[a]ll life on Earth participates in the 'carbon cycle'" and states (p. 7): Records from Antarctic ice cores indicate that the carbon cycle has been in a state of imbalance for the past 200 years, with emissions of carbon dioxide to the atmosphere exceeding absorption.			X				Text revised to correct ambiguity about currently.
01-015	13	1	1-2	2-4	Moreover, in Chapter 5 the draft report states (p. 5-2, lines 14-15) that "[h]umans have been inadvertently altering the Earth's carbon cycle since the dawn of agriculture, and more rapidly since the industrial revolution."		X					This fact also reflected in revised text at end of following paragraph
01-016	13	1	1-2	2-4	However, the use of the word "Currently" suggests the imbalance is recent, and this would seem misleading in light of the EIA statement and Chapter 5. A repeat of, or reference to, the EIA statement is more accurate. Similarly, the above statement in the Executive Summary (p. ES-1) should, at a minimum, also include a reference to the EIA statement of "imbalance for the past 200 years" in order to make it clear that this is not a recent occurrence.		X					See response to Comments # 01-014 and 01-015.
01-017	12	1	1-2	6-8	The analogy to the water cycle is inappropriate because the water cycle IS out of balance. Moreover, the C cycle has been out of balance in the geologic past without human influence. The absence of any reference to the geologic history of the C cycle – and the role of information about this history in current understanding of C cycle and climate change – is a serious oversight.		X					

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01-018	13	1	1-2	32-33	The sentence cites the 2003 Strategic Plan as stating that “carbon dioxide is the largest single forcing agent of climate change.” However, the Plan’s complete sentence also states (p. 71) that “methane (CH <sub>4</sub> ) is also a significant contributor,” followed by these further Strategic Plan statements: "Atmospheric concentrations of CO2 and CH4 have been increasing for about 2 centuries as a result of human activities and are now higher than they have been for over 400,000 years. Since 1750, CO2 concentrations in the atmosphere have increased by 30% and CH4 concentrations in the atmosphere have increased by 150%. Approximately three-quarters of present-day anthropogenic CO2 emissions are due to fossil-fuel combustion (plus a small amount from cement production); land-use change accounts for the rest." Despite this, the draft report does not discuss in depth methane and its contribution. It should do so.					X		Discussion in depth of methane and its contribution [to radiative forcing] is beyond the scope of this report. Text has been added to clarify.
01-019	13	1	1-3	28-29	The first person “we” is used. It unclear whether “we” refers to the CCSP, the authors of the draft report, the globe or North America.		X					
01-020	13	1	1-4	8-11	On line 9, we suggest substituting the word “the” for “our” in the sentence that begins on line 8 because it is unclear who the first person “our” is intended to include.		X					
01-021	13	1	1-4	8-11	We also urge deletion of the sentence beginning on line 10, because on p. 1-3, line 28, the chapter states, “We do not yet have a full understanding of an unbalanced carbon budget. . .” (emphasis added). Assuming that is the case, the draft cannot properly conclude that “any sustained imbalanced” – presumably of any amount or percentage and over any period of time – “could be serious business. . .for North America” and globally. In addition, there is no source reference for this conclusion.		X					
01-022	13	1	1-4	19-23	These lines first indicate that “[t]he magnitude of the ‘North America sink’ has been <u>estimated at anywhere from less than 100 Mt C yr<sup>-1</sup> to slightly more than 2000 Mt C yr<sup>-1</sup>. . .with a value near 350 to 750 Mt C yr<sup>-1</sup> perhaps most likely. . .</u> ” (emphasis added). It then states, “In Chapter 3 of this report, the sink is <u>estimated to be 592 Mt C yr<sup>-1</sup> caused by a variety of factors . . .</u> ” (emphasis added). “The North American sink is thus a substantial, <u>if highly uncertain factor</u> , from 15% to essentially 100%, of the extra-tropical <u>Northern Hemisphere terrestrial sink estimated to be in the range of 600 to 2300 Mt C yr<sup>-1</sup> during the 1980s. . .</u> ” (emphasis added). In fact, the statement in Chapter 3 is not an estimate but an assertion.					X		The value in Chapter 3 is indeed an estimate, based on synthesis and assessment of existing information. It is not an assertion.
01-022 (cont)					Chapter 3 asserts (p. 3-4, lines 29-30) that “[a]pproximately 30% of North American fossil fuel emissions are offset by a natural sink of 592 Mt C yr-1 caused by a variety of factors . . . .” If that assertion is accurate, we question the need for the above estimates and ranges for the North American sink. In addition, since there is a reference to the larger Northern Hemisphere sink, there should be a discussion of its composition and magnitude and of the relationship globally.					X		These estimates are for background and perspective, placing the estimate for North America reported here in context of previous estimates and estimates for the Northern Hemisphere sink. But further discussion of the Northern Hemisphere sink is beyond the scope and not necessary to the purpose of this chapter ,

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01-023	12	1	1-4	22-23	The land sink estimate of 592 MTC/yr is attributed to chapter 3, without uncertainty specification. The lack of uncertainty specification is not consistent with the rounded value (600) given in the Executive Summary, and the specification of three significant figures seems inconsistent with the uncertainties represented in the same paragraph and elsewhere.		X					
01-024	12	1	1-5	20	The phrase, "Whether as source or sink," gives the unintended impression that N.A. might be a net sink. Surely it is a net source, reflecting a balance of sources over sinks, but this sentence is not well worded.		X					
01-025	13	1	1-5	20-23	The sentence beginning on line 20 and the reference to the "CCSP, 2003" is largely a repeat of the points made in the paragraph on p. 1-3, lines 15-25. We question its need here, particularly because this section of Chapter 1 is about the "Carbon Budget of North America," not the global "carbon cycle."				X			The text has been revised to make the clearer the point of this sentence, that an understanding of the North American carbon budget is necessary to the understanding of the global carbon cycle needed to manage it.
01-026	13	1	1-5	24 ff	The sentence beginning on line 24 of p. 1-5 refers to "carbon management <u>targets</u> " and carbon management <u>goals</u> " and states that the "absence" of such "targets" makes it <u>"difficult to address the question of just how well, with what precision</u> the North American carbon budget <u>must be known to achieve</u> " such "goals" (emphasis added). Prior to this sentence, the chapter did not make reference to, or indicate the nature of or a need for, such "targets" or "goals" or indicate how or when they could or might be set or established. It is unclear what the relationship is between the two and why "targets" may be needed to "achieve" such "goals." There is also no indication of what the "goals" are or why their achievement is so "difficult" without "targets." Therefore, the sentence and its references to "targets" and "goals" should be either deleted or expanded. We do not see their relevance here.		X					text eliminated
01-027	13	1	1-5 & 1-6	28 & 2	The source referred to is: "(Pep Canadell, personal communication, 2006)." That source is not included in the references for the chapter (see pp. 1-7 - 1-8). We do not know who or what "Pep Canadell" is, nor do we understand what the reference to a "personal communication" means, who the maker or recipient of that "communication" was, or whether it was verbal or in writing. Our understanding is that the draft is to be based on peer- reviewed literature or official publications, not personal communications. We seek clarification.		X					
01-028	12	1	1-5	28	"Pep Canadell personal communication, 2006" is not a sufficient authority for this important statement.		X					
01-029	12	1	1-6	2	"Pep Canadell personal communication, 2006" is not a sufficient authority for this important statement.		X					
01-030	13	1	1-6	26 & 32	The phrase "U.S. Climate and Carbon Research Community" in the sentence beginning on line 26 would seem to exclude such a comparable "community" in Canada and Mexico. Such an exclusion seems inappropriate in a draft report about the "North American Carbon Cycle and Carbon Budget." We recommend the phrase be either deleted or revised to give equal treatment to the "research community" in these other countries.		X					

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01-031	13	1	1-6	26 & 32	The phrases "a diverse range of stakeholders" and "incorporating stakeholder interactions throughout this report," on lines 26 and 32, respectively, give the impression that stakeholder (as that term is defined in the 2003 Strategic Plan Glossary (p. 198)) involvement has been extensive regarding this draft. The SOCCR document titled "List of Non-Author Participants" identifies the involvement of just 29 "SOCCR Stakeholders." They include representatives of the Forest Service, the U.S. Department of Agriculture Global Climate Change Program Office and the Treasury Department – who do not come within the Glossary definition of a stakeholder; several academics; a representative of a French organization; some representatives of environmental organizations; a representative from a utility; and a representative from a vehicle manufacturer. That does not represent "a diverse range of stakeholders." EEI, whose U.S. members generate more than 70 percent of all electricity in the U.S., is not represented on the list. We urge deletion of these phrases or a better explanation of the extent of "stakeholder" involvement.		<b>X</b>					